

**NADY  
AUDIO**

# OWNER'S MANUAL



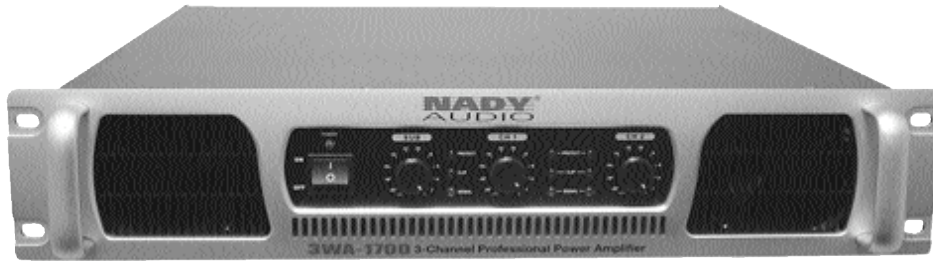
# 3WA-1700

**3-CHANNEL PROFESSIONAL POWER AMPLIFIER**

# 3WA-1700

## 3-CHANNEL PROFESSIONAL POWER AMPLIFIER

**NADY**  
AUDIO



Congratulations on your choice of the NADY 3WA-1700 power amplifier — you have purchased one of the finest power amplifiers on the market today. This unit was developed using the expertise of professional sound engineers and working musicians. You will find that your new 3WA-1700 amplifier has superior performance and greater flexibility than any other amplifier in its price range. Please read this manual carefully to get the most out of your new unit. Thanks for selecting NADY AUDIO as your choice in power amplifiers.

### FEATURES

Offering top power, superior performance and full professional operating features in a roadworthy compact chassis, the 3WA-1700 amplifier is perfect for even the most demanding sound reinforcement installation and touring applications.

- This 3-way amp allows you to power your left and right main speakers AND your subwoofers, with no crossover necessary, all from one 2u rack chassis. The 3WA-1700 easily powers four 8Ω speakers for the stereo mains and two 8Ω subwoofers with 450W of power per channel plus a whopping 800W for the subs! A perfect amp for DJ's, traveling bands, or small clubs.
- Selectable internal Low Pass Filter can be adjusted from 50Hz to 250Hz to maximize the tight punch of your subs.
- Filter / Source switch – to enable the internal low-pass filter and use the left and right input signals for the subwoofer – or to disable the internal filter to either use an external active crossover or use the Sub channel to pass full-range signals for monitor feeds or sound reinforcement.
- Selectable Low Cut Filter to minimize muddy bass and stage rumble.
- Balanced XLR and 1/4" TRS inputs; binding post (banana plug) outputs, detent volume controls for each channel.
- Full safety/reliability features: 4 variable speed fans for ultimate cooling; noise-free on-off; built-in DC offset; independent DC and thermal overload protection on each channel; short circuit and speaker protection.
- Power ON, Signal, Clipping, and Protect LED indicators for each channel.
- Roadworthy, rugged double rack space (2U) housing.
- ~115(60Hz) IEC power cord connector and 3AG fuse holder.
- Power Output Ch 1 & 2: 2 x 450W @ 4Ω, Subwoofer: 800W @ 4Ω
- Dimensions (HxWxD): 3.5" x 19.0" x 17.2" (88.8x483x436mm)
- Weight: 46.2 lbs. (21Kg)

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Date of Purchase \_\_\_\_\_  
 Dealer's Name \_\_\_\_\_  
 City \_\_\_\_\_  
 State \_\_\_\_\_  
 Zip \_\_\_\_\_  
 Model # \_\_\_\_\_  
 Serial # \_\_\_\_\_

# WARNING



An equilateral triangle enclosing a lightning flash/arrowhead symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure which may be of sufficient magnitude to constitute a risk of electric shock.



An equilateral triangle enclosing an exclamation point is intended to alert the user to the presence of important operating and service instructions in the literature enclosed with this unit.

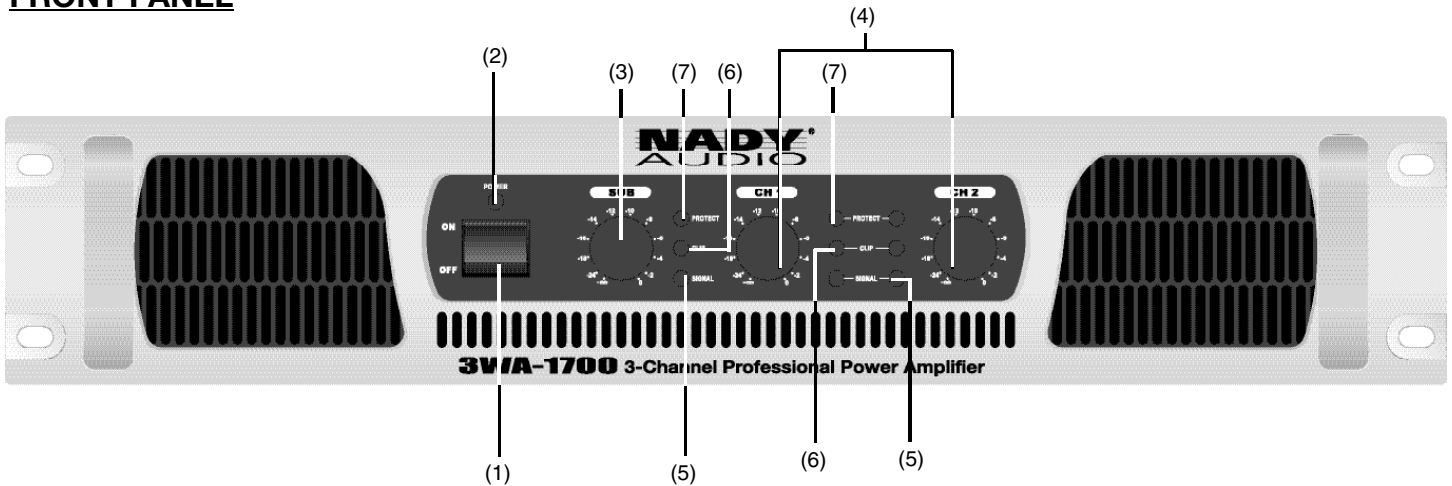
## IMPORTANT SAFETY INSTRUCTIONS

When using this electronic device, basic precautions should always be taken, including the following:

1. Read all instructions before using the product.
2. Do not use this product near water (e.g., near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool, etc.).
3. This product should be used only with a cart or stand that will keep it level and stable and prevent wobbling.
4. This product, in combination with headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
5. The product should be positioned so that proper ventilation is maintained.
6. The product should be located away from heat sources such as radiators, heat vents, or other devices (including amplifiers) that produce heat.
7. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product. Replace the fuse only with one of the specified type, size, and correct rating.
8. The power supply cord should: (1) be undamaged, (2) never share an outlet or extension cord with other devices so that the outlet's or extension cord's power rating is exceeded, and (3) never be left plugged into the outlet when not being used for a long period of time.
9. Care should be taken so that objects do not fall into, and liquids are not spilled through, the enclosure's openings.
10. The product should be serviced by qualified service personnel if:
  - A. The power supply cord or the plug has been damaged.
  - B. Objects have fallen into, or liquid has been spilled onto the product.
  - C. The product has been exposed to rain.
  - D. The product does not appear to operate normally or exhibits a marked change in performance.
  - E. The product has been dropped, or the enclosure damaged.
11. Do not attempt to service the product beyond what is described in the user maintenance instructions. All other servicing should be referred to qualified service personnel.

# CONTROLS AND CONNECTIONS

## FRONT PANEL



### 1. POWER SWITCH

To turn the unit ON or OFF, press the upper or lower portion of this button. Before turning on the amplifier, check all connections and turn down the level controls. A momentary muting is normal when turning the amplifier on or off.

*(Caution: Always turn on your power amplifier last, after all your other connected equipment, and always turn off your power amplifier before your other connected equipment.)*

### 2. POWER LED INDICATOR

This LED illuminates when the power is turned "ON".

### 3. SUBWOOFER LEVEL CONTROL

This controls the level of the signal for the Subwoofer channel. The actual voltage gain is shown in dB. Turn the level down (counterclockwise) if the Clipping LEDs (6) illuminate steadily (indicating too strong an output signal).

### 4. CHANNEL 1 & 2 LEVEL CONTROLS

These control the level of channel 1 & 2.

### 5. SIGNAL LED INDICATORS

These LEDs illuminate to confirm the presence of an input signal greater than 110mV on that channel of the amplifier.

### 6. CLIP (PEAK) LED INDICATORS

These LEDs illuminate if the corresponding channel's output is within 3dB of clipping. Occasional blinking of the LEDs is acceptable, but if they remain on more than intermittently you should turn down either the power amplifier's level controls or reduce the output level of the preceding component to avoid audible distortion.

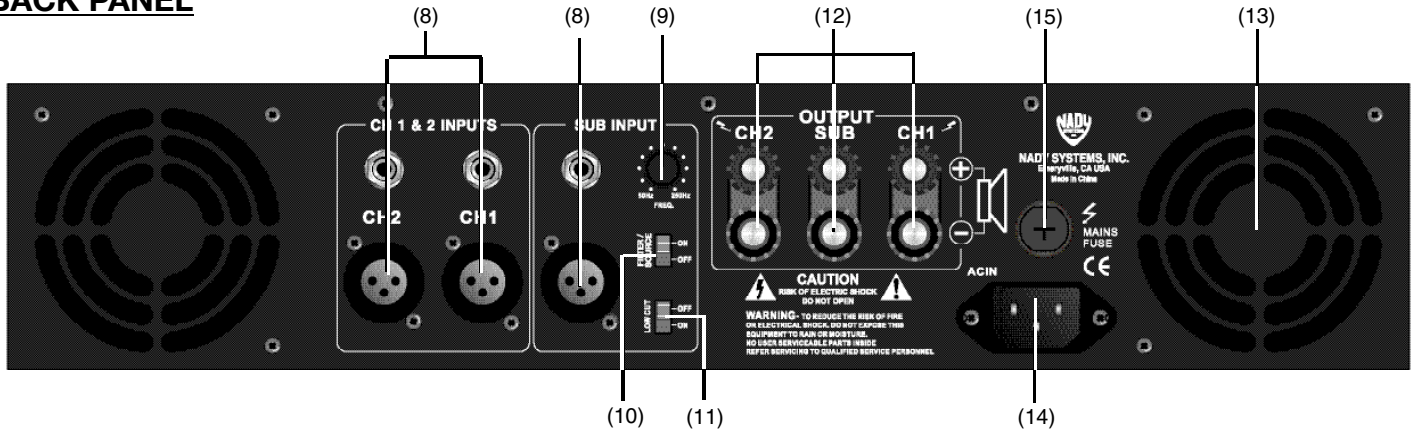
*[Caution: Prolonged use at levels in excess of clipping can cause damage to your speakers and even the internal amplifier. Carefully monitor the clipping LEDs to avoid prolonged clipping.]*

### 7. PROTECT LED INDICATORS

These LEDs illuminate if the power amplifier's safety circuit has been triggered to shut off the outputs. This can occur if the output connection has been shorted, the load impedance is too low, there is DC voltage at the outputs, or if the power amp overheats due to excessive clipping. When either of these LEDs is lit up, turn OFF the power and check the output connections to verify that they are correct. If the output connections are shorted, or a speaker is blown, correct the problem (or unplug the speaker) and try turning the amp back on. It's also prudent to carefully feel if the amplifier is very hot due to excessive clipping. If so, allow the amp to cool down before turning the power back on.

# CONTROLS AND CONNECTIONS

## BACK PANEL



### 8. BALANCED INPUT CONNECTORS (1/4" TRS & XLR)

These balanced 1/4" (6.3mm) TRS (Tip/Ring/Sleeve) phone jacks and balanced XLR jacks are designed to accept line level balanced or unbalanced signals for each channel. They are wired Tip/Pin 2 = (+), Ring/Pin 3 = (-), and Sleeve/Pin 1 = Ground. Balanced input signals are recommended, as they are less prone to AC hum. For long cable runs, a source of less than 600 $\Omega$  output impedance is needed to avoid signal loss. For short cable runs an unbalanced signal input should be suitable.

Since the TRS phone jacks and XLR jacks are wired together internally for each channel, you can parallel these jacks with another amplifier by connecting either the 1/4" jack or the XLR jack to the input jack of another amplifier. You can also parallel the inputs of two channels together using this same technique.

### 9. LOW PASS FREQUENCY CONTROL

This control adjusts the roll-off frequency point of the internal low pass filter from 50Hz to 250Hz. Adjust this control, with music playing, to find the frequency setting that delivers the best punch from your subwoofers. The **Filter/Source Switch (10)** must set to ON to use this function.

### 10. FILTER / SOURCE SWITCH

This switch enables or disables the internal low pass filter. When the switch is set to ON, the internal low pass filter is enabled, the Subwoofer inputs should remain unused, and the input signals of channel 1 and 2 are used as the source for the subwoofer. The Ch 1 and 2 signals are combined and sent through the crossover and on to the Subwoofer output.

When the switch is set to OFF, the internal crossover is disabled and the Subwoofer input is used as the source. This allows the use of an external active crossover or using the Sub channel to pass full-range signals for monitor feeds or sound reinforcement.

### 11. LOW CUT FILTER SWITCH

This switch enables/disables the low cut filter for the Subwoofer output. The filter has a fixed roll-off frequency at 30Hz with 12dB/octave of cut. This can tighten up the sound while reducing muddy bass and stage rumble. This filter is only active when the **Filter/Source Switch (10)** enabled.

### 12. OUTPUT CONNECTORS

These binding post (banana) connectors can accommodate banana plugs, MDP modular dual plugs, or they can be unscrewed and used for simple binding post connections. Make sure all connections are tidy and there are no loose wires sticking out that could short the outputs. Connections are as depicted on the rear panel and in the following **SPEAKER CONNECTIONS** section on page 7 of this manual.

*[Caution: Make sure that the speaker, speaker connectors, and wiring can handle the rated output power to avoid damage. Speaker power ratings (in RMS) should always exceed amplifier power ratings. Note that prolonged use at levels in excess of clipping can possibly drive the amplifier into thermal runaway and damage the internal amplifier and speaker, so care must be taken not to overload the amplifier. Never use less than 4 $\Omega$  total impedance for any channel, as this also can cause the amplifier to overheat and create thermal runaway.]*

### 13. FANS

The four variable-speed fans adjust speed automatically to maintain the proper internal operating temperature. Never block the air vents on the front, back, and side panels of the amplifier to allow proper ventilation.

### 14. POWER CONNECTOR

The cord connector is used to connect the 115VAC power source to your power amplifier.

*[Caution: Never remove the center grounding pin as this can cause a serious safety hazard and will immediately void your warranty.]*

### 15. FUSE

The fuse holder contains a 3AG fast blow fuse. If this fuse continuously blows, shut off the unit and have it serviced by the Nady Service Department.

# INSTALLATION

To ensure years of enjoyment from your NADY AUDIO 3WA-1700 amplifier, please read and understand this manual thoroughly before using the unit.

## INSPECTION

Your 3WA-1700 amplifier was carefully packed at the factory in packaging designed to protect the units in shipment. Before installing and using your unit, carefully examine the packaging and all contents for any signs of physical damage that may have occurred in transit.

*(Note: Nady Systems is not responsible for shipping damage. If the unit is damaged, do not return to us, but notify your dealer and the shipping company immediately to make a claim. Such claims must be made by the consignee in a timely manner.)*

## CONTENTS

- Instruction manual
- 3WA-1700 (verify that the unit's serial number is same as shown on shipping carton)
- AC Power cord
- Warranty Card

## RACK MOUNTING

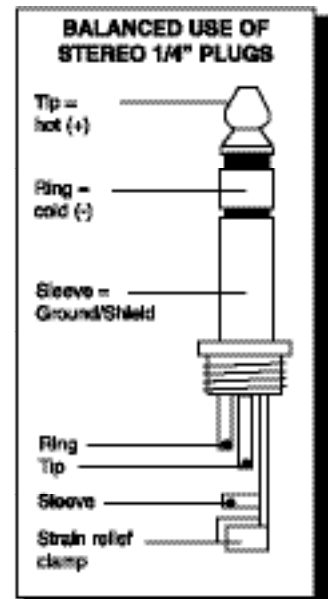
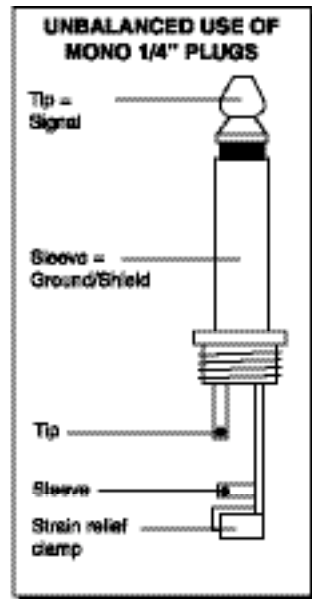
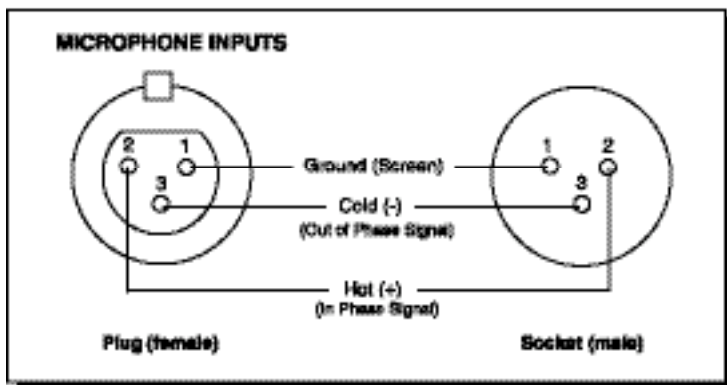
The 3WA-1700 amplifier is designed for standard 19" rack mounting as well as "stack" mounting without a cabinet. Use 4 screws and washers for mounting to the front rack rails. It is also a good idea to support the amps also in the rear, especially for mobile use where the amps will be subjected to shocks.

## AMPLIFIER COOLING

Also pay close attention to the cooling requirements. Never block the front, rear or side air vents. For best results, in high output power applications, you should augment the amplifier's air flow with a rack cooling system.

# INPUT CONNECTIONS

The following instructions describe the most common ways to install your amplifier into a sound system.





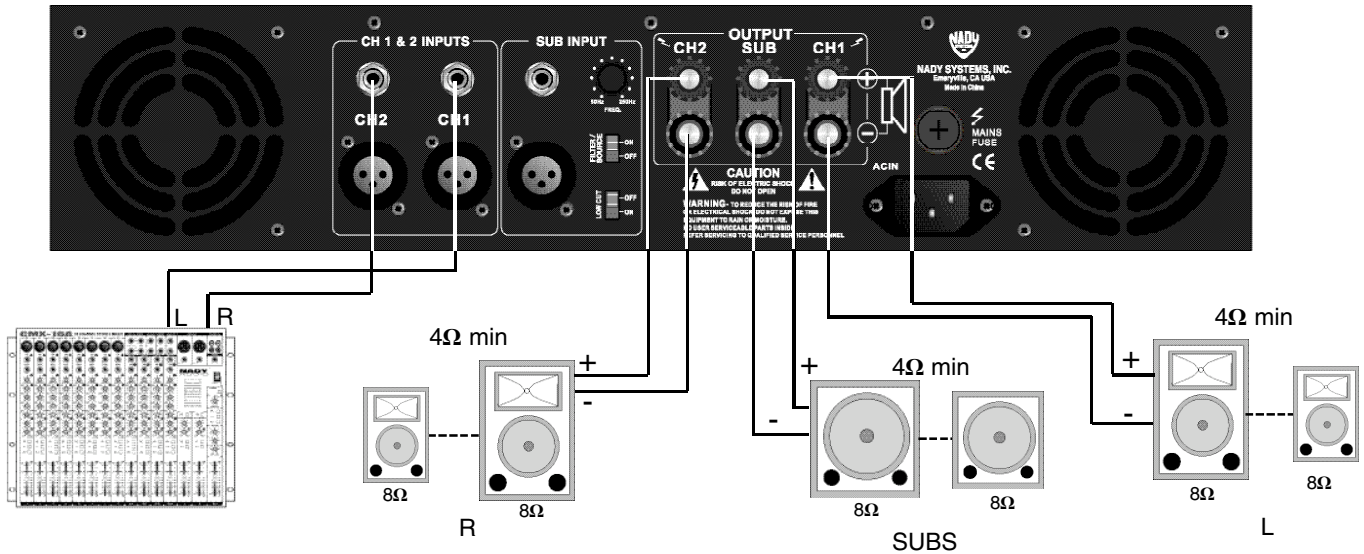
# SPEAKER CONNECTIONS

The following instructions describe the most common ways to install your amplifier into a sound system. Turn off the amplifier power switch before making any connections.

(Note: Nady Systems assumes no liability for damaged speakers resulting from improper wiring, careless amplifier use, or over powering.)

## • Mains & Subwoofer Mode (with internal low-pass)

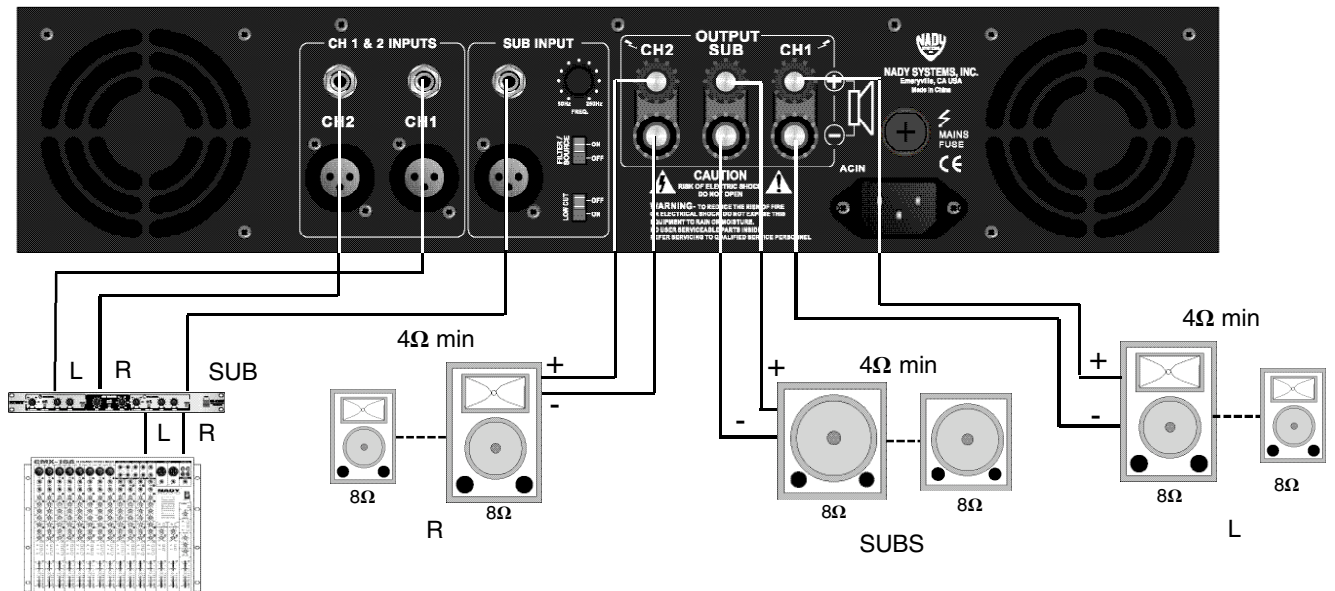
1. Input Left and Right signals from your mixer into Channels 1 and 2.
2. Set the Filter/Source switch to ON.
3. Adjust the Low Pass Frequency control, with music playing, to find the setting that delivers the best sound from your subwoofer cabinet(s).
4. Leave the Subwoofer inputs unused.



(Note: Do not connect a speaker load less than 4Ω to either channel as it can damage your amplifier.)

## • Mains & Subwoofer Mode (with external crossover)

1. Input main Left and Right signals from your crossover into Channels 1 and 2.
2. Input subwoofer signal from your crossover into the Subwoofer input.
3. Set the Filter/Source switch to OFF.

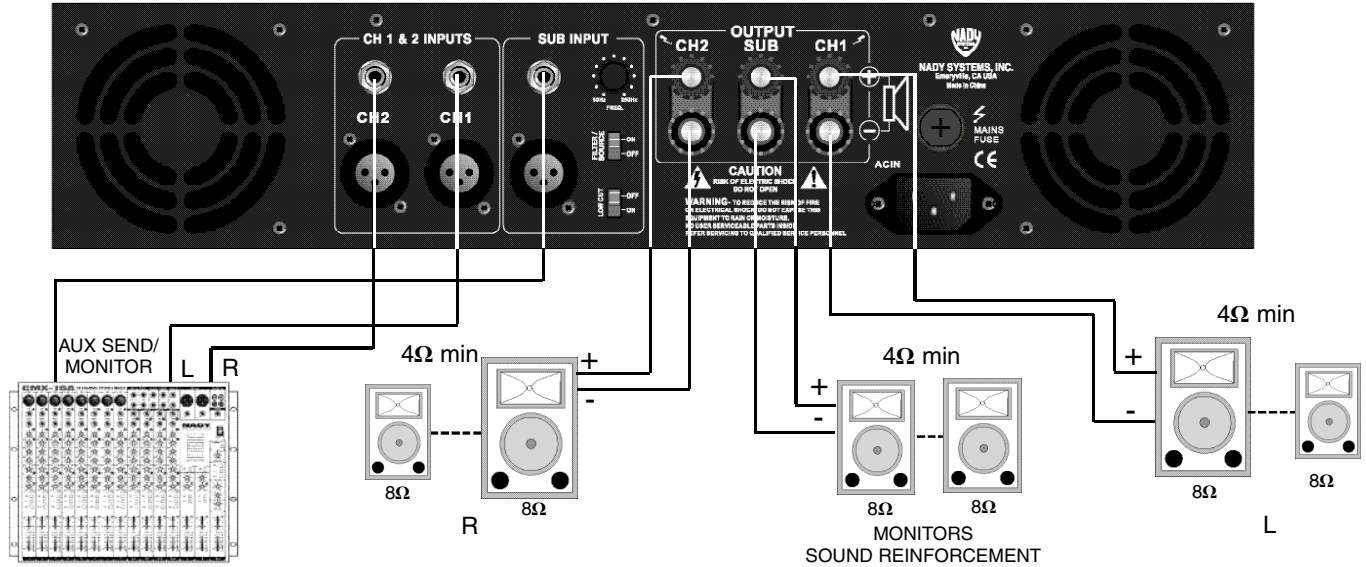


(Note: Do not connect a speaker load less than 4Ω to either channel as it can damage your amplifier.)

# SPEAKER CONNECTIONS

## • Mains & Monitor Mode

1. Input main Left and Right signals from your crossover into Channels 1 and 2.
2. Input Monitor or Aux full-range signal from your mixer into the Subwoofer input.
3. Set the Filter/Source switch to OFF.



(Note: Do not connect a speaker load less than 4Ω to either channel as it can damage your amplifier.)



# SPECIFICATIONS

## 1. OUTPUT SECTION

Power Output (all channels driven simultaneously, 1% THD)	
Channel 1 & 2 .....	300W RMS per side @ 8Ω 450W RMS per side @ 4Ω
Subwoofer .....	550W RMS @ 8Ω 800W RMS @ 4Ω
Ch 1 & 2 "Touch-proof" binding posts (banana jack) outputs	
Damping Factor (20Hz – 400Hz @ 8Ω) .....	> 250
Slew Rate (1KHz @ 2 x 4Ω) .....	6.5V / μS
Frequency Response .....	10Hz ~ 50KHz (- 2dB)
THD + Noise .....	0.04%
S/N Ratio .....	- 86dBm
Noise Floor .....	3mV
Total Gain .....	40dB
Amplifier Protection .....	Four variable speed fans for cooling; Power On/Off relay; RF protection; DC offset protection circuits; thermal overload protection; short circuit protection

## 2. INPUT SECTION

Sub, Ch 1 & 2 balanced XLR and 1/4" TRS	
Input Impedance balanced / unbalanced .....	40KΩ / 20KΩ
Sensitivity (level control set to max)	
Ch 1 & 2 balanced / unbalanced .....	-3.8dBm, 500mV / +2.2dBm, 1V
Sub balanced / unbalanced .....	-2.1dBm, 600mV / +3.8dBm, 1.2V
Max Input Level (Level control set to Mid) .....	>5V, +16.2dBm
Controls .....	Rear: Filter/Source selector, Low Cut Front: Power switch, Ch A & B Level controls
Low Pass Filter .....	adjustable 50Hz – 250Hz (-12dB/octave)
Low Cut (high pass filter) .....	fixed 30Hz (-12dB/octave)
LED Indicators	
Sub, Ch 1 & 2 Signal .....	3 x green LED light at 110mV
Sub, Ch 1 & 2 Clipping .....	3 x red LED light 3dB before clipping
Sub, Ch 1 & 2 Protect .....	3 x Red LED
Power On .....	1 x Blue LED

## 3. GENERAL

Power Requirements .....	115VAC/60Hz
Fuse Requirements .....	3AG 20A 250V glass tube fast-blow
Weight .....	46.2 lbs. (21Kg)
Dimensions (HWD) .....	3.5" x 19.0" x 17.2" (88.8 x 483 x 436mm)

*The specifications above are correct at the time of printing of this manual. For improvement purposes, all specifications for this unit, including design and appearance, are subject to change without prior notice.*

# NOTES

## **SERVICE FOR YOUR NADY AUDIO PRODUCT**

**(U.S.)** Should your NADY AUDIO product require service, please contact the Nady Service Department via telephone at (510) 652-2411, or e-mail at [service@nady.com](mailto:service@nady.com).

**(International)** For service, please contact the NADY AUDIO distributor in your country through the dealer from whom you purchased this product.

DO NOT ATTEMPT TO SERVICE THIS UNIT  
YOURSELF AS IT CAN BE DANGEROUS  
AND WILL ALSO VOID THE WARRANTY.



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